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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,878	04/25/2001	Tomoyuki Imai	1417-348	5510

7590 07/16/2003
NIXON & VANDERHYE P.C.
8th Floor
1100 North Glebe Road
Arlington, VA 22201

EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/16/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,878

Applicant(s)

IMAI ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 33-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 33-40 appear to contain use limitations and it is unclear how they limit an iron compound catalyst as claimed because they do not appear to limit the catalyst itself but rather a process for using the catalyst.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 33-40 are rejected under 35 U.S.C. 103(a) as unpatentable over Iglesia et al. 5,036,032.

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Regarding claims 33 and 39, Iglesia '032 discloses catalyst metals including iron (see column 4, lines 20-21) supported as inorganic refractory oxides (see column 4, lines 38-44) comprising a diameter of 130 Angstroms (see column 9, lines 44-45), a surface area of 50-500 m²/g (see column 4, lines 50-51), and a site density of 0.064 (see Table A), 60-65% CO conversion (see column 10, line 45) and calcining at above 500 degrees at 1 degree per minute for a sufficient period of time (see column 6, lines 54-56). Iglesia does not disclose any presence of phosphorus, sulfur, or sodium (see Example 1).

Iglesia fails to disclose the process limitations 2.8×10^{-4} mol of iron oxide particles, heat-treating at 800 degrees, contacting with 6.1×10^{-7} mol of CO at 250 degrees, and a space velocity of 42,400 h⁻¹.

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the catalyst of Iglesia in a process with using any amount of moles to convert any amount of moles of CO to carbon dioxide at any space velocity at any temperature with the reasonable expectation of achieving a favorable result because such process of using limitations do not modify the catalyst product itself and Iglesia discloses a site density of 0.064 (see Table A), 60-65% CO conversion (see column 10, line 45) and calcining at

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above 500 degrees at 1 degree per minute for a sufficient period of time (see column 6, lines 54-56). Units of measurement, methods of taking these measurements, and the use of the catalyst, were not themselves given patentable weight with respect to the instantly claimed product.

Regarding claims 34, 37-38 Iglesia '032 discloses an iron catalyst (see column 4, lines 19-22) comprising a diameter of 130 Angstroms (see column 9, lines 44-45), a surface area of 50-500 m²/g (see column 4, lines 50-51), and a site density of 0.064 (see Table A). Iglesia discloses no presence of phosphorus, sulfur, or sodium (see Example 1).

Regarding claims 35, Iglesia '032 discloses 60-65% CO conversion (see column 10, line 45) and calcining at above 500 degrees for 1 degree per minute for a sufficient period of time (see column 6, lines 54-56), and the use of the catalyst was not given patentable weight.

Regarding claims 36 and 40, Iglesia '032 discloses catalyst metals including iron (see column 4, lines 20-21) supported as inorganic refractory oxides (see column 4, lines 38-44).

Response to Arguments

5. Applicant's arguments filed 6/19/03 have been fully considered but they are not persuasive.

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The declaration under 37 CFR 1.132 filed 6/19/03 is insufficient to overcome the rejection of claims 33-40 based upon 35 USC §103(a) as set forth in the last Office action because: It refer(s) only to the system described in the above referenced application and not to the individual claims of the application. Applicant's experiments were conducted at very specific points chosen within the much broader claimed ranges of particle size, BET specific surface area. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716. It is also noted that Applicant himself conducted the experiments.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

It is argued that it is submitted that the above claims properly and clearly define... thus no new matter is introduced. This is not persuasive because Applicant claims process of using limitations in attempting to define a claimed product in a manner that would be unclear to one skilled in the art as to what the metes and bounds of the invention are. This is not a new matter rejection under 35 USC §112, first paragraph.

It is argued that the Office Action argues that Iglesia et al. disclose... (see column 10, line 45). This is not persuasive

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because Applicant appears to admit that 60-65% CO conversion is disclosed, arguing only that it has been "read in a vacuum". However, even when read in the context of Applicant's entire quoted passage, conditions "required for 60-65% CO conversion" is disclosed. Further, CO conversion is merely an intended use of the claimed product and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

It is argued that thus, the CO conversion of Iglesia et al is a Fischer-Tropsch reaction. This is not persuasive for the reasons above.

It is argued that further, since the rim type catalyst... Iglesia et al do not suggest the aggregates consisting essentially of... claims 36, 39, and 40. This is not persuasive because Iglesia discloses a composition (see column 5, lines 37-

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39), upon which disclosure Applicant's claim is considered to read.

It is argued that further, as seen from Experiment 2 in Mr. Matsui's Declaration... of the present invention. This is not persuasive for the reasons above and because CO conversion is an intended use of the claimed product and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this

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action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


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EMJ

July 9, 2003


STANLEY S. SILVERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700